Technical Information

Z-QUAT™ TO10ZH®

Product description

Proprietary methylammonium methosulfate ester quaternary.

Physical properties

1.	Appearance (20 °C)	yellow, clear liquid
2.	Colour (Gardner)	max. 6
3.	pH value (10 % in IPA/water)	5.5 – 7.5
4.	Active matter	0.72 – 0.80 meq/g

Application fields

Z-QUAT™ TO10ZH is suitable for the hydrophilic softening of textiles or non-wovens made of cellulosic fibres, synthetic fibres (polyester, polypropylene, polyamide, acrylics), wool and their blends.

Z-QUAT™ TO10ZH is an efficient softener/debonder for virgin and recycled fibre.

It is recommended as wet-end softener/debonder for tissue and towelling, as well as for fluff pulp applications. It can also be used for spray on felt applications before Yankee.

Benefits

Z-QUAT™ TO10ZH is a highly concentrated, cold dispersible, liquid and solvent-free product. Due to its special structure, it combines softening, softening/debonding, non-yellowing and hydrophilic properties in one molecule. Further, Z-QUAT™ TO10ZH has excellent heat stability, good calcium tolerance and low foaming ability, besides some antistatic and emulsifying properties.

Z-QUAT™ TO10ZH is substantive. Being of cationic nature, it is compatible with non-ionic, cationic and amphoteric chemicals.

Z-QUAT™ TO10ZH is generally not compatible with anionic chemicals. It is stable to water hardness as well as to acids, alkalis and electrolytes in concentrations usually encountered in practice. Use at extreme pH values should be avoided in order to prevent hydrolysis.

Z-QUAT™ TO10ZH is easy to formulate, especially in combination with other organics or organo modified siloxanes.

It can be applied alone or in combination with other surfactants/siloxanes to achieve synergistic effects. Z-QUAT™ TO10ZH can be used as basic ingredient for diverse formulations with tailor-made application profiles.

Dosage/Handling

Z-QUAT™ TO10ZH is easily dispersible in water at room temperature and soluble in isopropanol, ethanol, butyl diglycol, dipropylene glycol and mineral oil.

For padding applications, a dosage of approx. 2 – 6 g/l Z-QUAT™ TO10ZH is recommended.

In the exhaust method a dosage of approx. 0.1 – 0.8 g/l Z-QUAT™ TO10ZH (based on textile weight) is recommended.

For tissue wet-end applications, Z-QUAT™ TO10ZH should be used as aqueous dispersion.

Z-QUAT™ TO10ZH can be added at several points in the wet end: head box, fan pump, stuff box or machine chest. Add Z-QUAT™ TO10ZH at the point in the wet end which maximises contact time with fibres, thus allowing maximum exhaustion on the fibre.

Adding Z-QUAT™ TO10ZH at the fan pump, results in the best agitation.

Never add Z-QUAT™ TO10ZH at the same point and time with the wet strength resin.

Typical application dosages are 0.5 – 3 kg/t of dry fibre.

For virgin fibre, dosages of 2 – 3 kg/t are recommended, while recycled fibre and fluff pulp can be treated at dosages of less than 2 kg/t.

Z-QUAT™ TO10ZH should be added as a dispersion with 1 – 6 % solids.

For continuous in-line mixing: Z-QUAT™ TO10ZH can be pumped from containers with gear or piston pumps through stainless steel lines to be introduced into the water stream. An in-line static mixer should be used.

Making batch dispersions of Z-QUAT™ TO10ZH is also possible. Never add water to Z-QUAT™ TO10ZH. This will result in a gel which is very difficult to dissolve or disperse.

The proper way to prepare a batch dispersion of Z-QUAT™ TO10ZH is to add the product (temperature at least 15 °C) very slowly into the mixing dilution water (temperature at least 20 °C or warmer).

Continue agitation until a homogenous dispersion is obtained and cool down while stirring continuously to room temperature.

Registration Status

The components of Z-QUAT™ TO10ZH are listed on the following inventory:

EINECS (meets the polymer exemption rule) and China

Storage stability

Z-QUAT™ TO10ZH as delivered can be stored in closed drums for 12 months.

Z-QUAT™ TO10ZH is not sensitive to frost.

The viscosity increases by storage at lower temperatures.

By gentle heating to room temperature, the product regains its original viscosity without loss of quality.

Prolonged storage at elevated temperatures (above 40 °C) will result in product discoloration.

Packaging

180 kg open top plastic drums
Pallet size: 4 x 180 kg = 720 kg
950 kg plastic containers

Hazardous goods classification

Information concerning

- classification and labelling according to regulations for transport and for dangerous substances
- protective measures for storage and handling
- measures in case of accidents and fire
- toxicity and ecological effects

is given in our material safety data sheets.

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